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(54) **Blood-processing machine**

(57) A multiprotocol blood-processing machine and disposable units for use therewith. The disposable units generally comprise a centrifuge bowl for separating whole blood into blood constituents, an inlet tube for conveying blood into the bowl, an outlet tube for conveying the blood constituents away from the bowl, and a manifold for placing the inlet tube and the outlet tube in fluid communication with a tube from a donor. The manifold has a machine-readable bar-code label for identifying to the blood processing machine which type

of disposable unit is being coupled to it. The machine itself comprises a central processing unit that controls overall operation, a first computer memory containing safety-monitoring instructions that cause the central processing unit to monitor various state parameters in order to ensure donor safety, and a second computer memory containing instructions that define at least one apheresis or blood-processing protocol. In some implementations, the second computer memory is removable from and insertable into the blood processing machine by an operator.

EP 0 771 569 A3



European Patent Office

EUROPEAN SEARCH REPORT

Application Number  
EP 96 30 7822

| DOCUMENTS CONSIDERED TO BE RELEVANT   |  |   |  |
|---|--|---|--|
| Category  | Citation of document with indication, where appropriate, of relevant passages  | Relevant to claim                                       | CLASSIFICATION OF THE APPLICATION (Int.Cl.6) |
| X<br>A  | WO 80 02376 A (E LICHTENSTEIN)<br><br>* page 29, line 19 - page 31, line 14 *<br>* page 33, line 25 - line 37 *<br>* page 44, line 7 - line 29 *<br>* page 52, line 26 *<br>* page 52, line 6 - line 19 *<br>* page 52, line 26 - page 53, line 6 *<br>* page 55, line 20 - page 56, line 7 *<br>* figures * | 3-5,15,<br>17-19<br>1                                   | A61M1/36                                     |
| X   | ---<br>EP 0 384 155 A (B. BRAUN MELSUNGEN AG)<br>* column 1, line 1 - line 5 *<br>* column 3, line 57 - column 4, line 10 *<br>* column 4, line 27 - line 54 *<br>* column 5, line 10 - column 6, line 26 *<br>* figure 1 *  | 6-8   |  |
| X   | ---<br>EP 0 623 357 A (ALTHIN CD MEDICAL, INC.)<br>* page 9, line 48 - page 10, line 51 *<br>* figure 7 *  | 6-8   | TECHNICAL FIELDS SEARCHED (Int.Cl.4)         |
| A   | ---<br>WO 94 10921 A (EP TECHNOLOGIES INC.)<br>* page 12, line 19 - page 16, line 27 *<br>* figures 4,5 *  | 1,3,6,7,<br>10-13                                       | A61M   |
| A   | ---<br>US 4 610 781 A (A BILSTAD)<br>* column 7, line 9 - line 29 *<br>* figure 2 *  |   |  |
| A   | ---<br>FR 2 513 884 A (ELMAR MED. SYSTEMS LTD)<br>* page 1, line 1 - line 15 *<br>* page 11, line 11 - line 20 *<br><br>---<br>-/--  |   |  |
| The present search report has been drawn up for all claims  |  |   |  |
| Place of search<br><b>THE HAGUE</b>   |  | Date of completion of the search<br><b>17 June 1997</b> | Examiner<br><b>Vereecke, A</b>               |
| <b>CATEGORY OF CITED DOCUMENTS</b><br>X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document<br>T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>I : document cited for other reasons<br>& : member of the same patent family, corresponding document |  |   |  |

EPO FORM 1831 (04.91) (P/0201)



European Patent  
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**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing more than ten claims.

- All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.
- Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claims:
- No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

**LACK OF UNITY OF INVENTION**

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

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- All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respects of which search fees have been paid, namely claims:
- None of the further search fees has been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims.



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EUROPEAN SEARCH REPORT

Application Number  
EP 96 30 7822

| DOCUMENTS CONSIDERED TO BE RELEVANT  |   |   |
|--|---|---|
| Category   | Citation of document with indication, where appropriate, of relevant passages   | Relevant to claim                             |
| A  | US 5 460 490 A (R CARR)<br>* column 6, line 52 - column 7, line 7 *<br>* column 10, line 27 - line 43 *<br>* column 10, line 64 - column 11, line 20 *<br>----- |   |
|  |   | CLASSIFICATION OF THE APPLICATION (Int. CL.6) |
|  |   | TECHNICAL FIELDS SEARCHED (Int. CL.6)         |
| The present search report has been drawn up for all claims   |   |   |
| Place of search<br>THE HAGUE   | Date of completion of the search<br>17 June 1997  | Examiner<br>Vereecke, A                       |
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| X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document  |   |   |
| I : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>& : member of the same patent family, corresponding document |   |   |

EPO FORM 1501 (04/95) (P04001)



**LACK OF UNITY OF INVENTION**

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions, or groups of inventions, namely:

1. Claims 1-5,15-19 : A disposable having an indication readable by a blood processing machine and methods therefor.
2. Claims 6-14 : A blood processing machine with two computer memories which are computationally distinct from each other.